

**Abstract of th Disclosure**

In a plasma processing apparatus that forms plasma from a process gas by supplying the process gas into a processing container and applying high-frequency power to an electrode provided inside the processing container on which a workpiece is placed and executes specific plasma processing on the processing surface of the workpiece, apparatus state parameter data indicating a state of the plasma processing apparatus are obtained through measurement executed by a parameter measuring instrument, optical data are obtained through measurement executed by an optical measuring instrument and electrical data are obtained through measurement executed by an electrical measuring instrument. A means for plasma leak judgment judges that a plasma leak has occurred if there is a fluctuation in the data.